CLAIMS

1. A base station comprising:

a base-station reception part for receiving a radio signal from a mobile station;

a mobile-station-position monitor part for detecting location information on the mobile station from the radio signal received by the base-station reception part;

a correlation part for correlating a transmission power value for transmitting information with the location information on the mobile station; and

an up-link power control information generation part for selecting the transmission power value correlated by the correlation part to be corresponding to the location information on the mobile station detected by mobile-station-position monitor part, and for generating up-link power control information to the mobile station, based on a selected transmission power value.

2. The base station of claim 1,

wherein the mobile-station-position monitor part detects a plurality of the location information on the mobile station from the radio signal received by the base-station reception part, and predicts a movement destination of the mobile station based on a detected plurality of the location information, and

the up-link power control information generation part calculates a transmission power value required for communication at a position of the movement destination of the mobile station predicted by the mobile-station-position monitor part, to be corresponding to the transmission power value required for communication at each position in the detected plurality of the location information on the mobile station, and generates up-link power control information to the mobile station, based on a calculated transmission power value.

3. The base station of claim 1,

wherein the mobile-station-position monitor part predicts a movement destination of the mobile station, based on detected location information on the mobile station, and

the up-link power control information generation part selects the transmission power value correlated by the correlation part to be corresponding to information on the movement

destination of the mobile station predicted by the mobile-station-position monitor part, and generates the up-link power control information to the mobile station, based on a selected transmission power value.

4. The base station of claim 1, further comprising:

a route information detection part for detecting route information on the mobile station, from the radio signal received by the base-station reception part,

wherein the correlation part correlates the location information on the mobile station with the route information, and

the up-link power control information generation part selects the transmission power value correlated by the correlation part based on the route information detected by the route information detection part and the location information on the mobile station detected by mobile-station-position monitor part, and generates the up-link power control information to the mobile station, based on a selected transmission power value.

5.The base station of claim 1, wherein a plurality of the base stations exists, and

the mobile-station-position monitor part predicts a movement state of the mobile station based on a detected location information on the mobile station, selects the base station to communicate with the mobile station from the plurality of the base stations, based on a predicted movement state, and switches communication with the mobile station, to a selected base station.

6. A mobile station comprising:

a mobile-station reception part for receiving a radio signal including information on a transmission power value required for communication at a position of the mobile station, from a base station;

an amplifier for controlling up-link power by a control signal;

a transmission power value setting control part for separating the information on the transmission power value required for communication at the position of the mobile station, from the radio signal received by the mobile-station reception part, and for generating an amplifier-characteristic control signal for obtaining output characteristics of the amplifier to be

corresponding to the transmission power value, from a separated information on the transmission power value; and

a mobile-station transmission part for controlling the output characteristics of the amplifier, based on the amplifier-characteristic control signal generated by the transmission power value setting control part.

7. The mobile station of claim 6 further comprising:

an up-link power control part for generating a transmission power control signal for controlling the transmission power value to be transmitted to the base station, based on the information on the transmission power value separated by the transmission power value setting control part,

wherein the mobile-station transmission part controls the transmission power value of the amplifier, based on the transmission power control signal generated by the up-link power control part.

8. The mobile station of claim 6,

wherein the transmission power value setting control part separates prediction information on a transmission power value required for communication at a movement destination of the mobile station, from the radio signal received by the mobile-station reception part, and generates the amplifier-characteristic control signal for obtaining the output characteristics of the amplifier to be corresponding to a predicted transmission power value based on separated prediction information on the transmission power value.

9. The mobile station of claim 8, further comprising:

a prediction evaluation part for detecting the prediction information on the movement destination, from the radio signal received by the mobile-station reception part, comparing a detected movement destination with an actual position, and judging one of to adopt the prediction information on the movement destination and not to adopt the prediction information on the movement destination,

wherein the transmission power value setting control part, when it is judged to adopt the

predicted information on the movement destination by the prediction evaluation part, generates the amplifier-characteristic control signal for obtaining the output characteristics of the amplifier to be corresponding to the predicted transmission power value.

10. The mobile station of claim 6, further comprising:

a route setting part, by receiving designation of a starting point and a reaching point, for setting route information based on the starting point and the reaching point, and

a mobile-station data communication part for multiplexing the route information set by the route setting part, to information to be transmitted to the base station.

11. A communication system comprising:

a base station which comprises:

a base-station reception part for receiving a radio signal from a mobile station;

a mobile-station-position monitor part for detecting location information on the mobile station from the radio signal received by the base-station reception part;

a correlation part for correlating a transmission power value for transmitting information with the location information on the mobile station; and

an up-link power control information generation part for selecting the transmission power value correlated by the correlation part to be corresponding to the location information on the mobile station detected by mobile-station-position monitor part, and for generating up-link power control information to the mobile station, based on a selected transmission power value, and

the communication system comprising:

a mobile station which comprises:

a mobile-station reception part for receiving a radio signal including information on a transmission power value required for communication at a position of the mobile station, from a base station;

an amplifier for controlling up-link power by a control signal;

a transmission power value setting control part for separating the information on the transmission power value required for communication at the position of the mobile station, from

the radio signal received by the mobile-station reception part, and for generating an amplifier-characteristic control signal for obtaining output characteristics of the amplifier to be corresponding to the transmission power value, from a separated information on the transmission power value; and

a mobile-station transmission part for controlling the output characteristics of the amplifier, based on the amplifier-characteristic control signal generated by the transmission power value setting control part.

12. A base station communication method comprising:

receiving a radio signal from a mobile station;

detecting location information on the mobile station from a received radio signal;

correlating detected location information on the mobile station with a transmission power value for transmitting information; and

generating up-link power control information to the mobile station, based on a correlated transmission power value.

13. A base station communication program which makes a computer execute processes comprising:

a process of receiving a radio signal from a mobile station;

a process of detecting location information on the mobile station from a received radio signal;

a process of correlating detected location information on the mobile station with a transmission power value for transmitting information; and

a process of generating up-link power control information to the mobile station, based on a correlated transmission power value.

14. A mobile station communication method comprising:

receiving a radio signal including information on a transmission power value required for communication at a position of a mobile station, from a base station;

separating the information on the transmission power value required for communication at

the position of the mobile station, from a received radio signal;

generating an amplifier-characteristic control signal for obtaining output characteristics of an amplifier to be corresponding to the transmission power value, from a separated information on the transmission power value; and

controlling the output characteristics of the amplifier, based on a generated amplifier-characteristic control signal.

15. A mobile station communication program which makes a computer execute processes comprising:

a process of receiving a radio signal including information on a transmission power value required for communication at a position of a mobile station, from a base station;

a process of separating the information on the transmission power value required for communication at the position of the mobile station, from a received radio signal, and generating an amplifier-characteristic control signal for obtaining output characteristics of an amplifier to be corresponding to the transmission power value, from a separated information on the transmission power value; and

a process of controlling the output characteristics of the amplifier, based on a generated amplifier-characteristic control signal.